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ABSTRACT

An allocation model for compensatory education was implemented in the Mesa, Arizona Public Schools based on educational need rather than on the current method of allocation which is based on economic need. Five models were developed and presented. The models incorporated, in addition to strict educational need, demographic characteristics of the individual schools, e.g., mobility, ethnicity. The different allocation models were compared to determine their impact on each of the schools with regard to the number of students to be served. Use of the strict educational model is recommended, and the supporting rationale for its selection given. (Author/RC)

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ALLOCATION MODELS IN COMPENSATORY EDUCATION

by

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Chapter 1

INTRODUCTION

The Elementary and Secondary Education Action of 1965 (ESEA) was signed into law April 11, 1965. Federal aid for educationally deprived children was authorized as Title I of P.L. 81-874. In January 1968, Congress officially redesignated the enabling legislation as Title I, ESEA--Financial Assistance to Local Educational Agencies (LEA) for the Education of Children of Low-Income Families.

The purpose of this program was

> to provide financial assistance...to local educational agencies serving areas with concentrations of children from low-income families to expand and improve their educational programs...(to meet) the special educational needs of educationally deprived children.[1]

The term "educationally deprived children" has been defined in the Title I regulations as:

> ...those children who have need for special educational assistance in order that their level of educational attainment may be raised to that appropriate for children of their age. The term includes children who are handicapped or whose needs for such special educational assistance result from poverty, neglect, delinquency, or cultural or linguistic isolation from the community at large.[2]

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[1]U.S. Office of Education, History of Title I ESEA, [by R.H. Finch] ([Washington]: Department of Health, Education and Welfare, June 1969), p. 2.

[2]U.S. Office of Education, Title I ESEA Program Guides Number 44 and 45-A, (Washington, D.C.: U.S. Government Printing Office, 1969), p. 7.

In size, Title I represents the largest single federal program of categorical aid to public elementary and secondary schools. The budget for FY 1972 involved a total expenditure of nearly $1.6 billion, directed toward the needs of nearly 8 million pupils in 16,000 school districts throughout the United States and its territories. This single program amounts to nearly 30% of the total USOE budget, and nearly 70% of all USOE assistance to the disadvantaged.

STATEMENT OF THE PROBLEM

A program as large and complex as Title I is bound to encounter problems and show some deficiencies. Recently, however, the program has come under considerable criticism. A number of alternative formulations of the Title I program has been recently proposed. Perhaps the most radical alternative is HR 5163 presented by Congressman Albert Quie (Republican, Minnesota), known as the Quie Bill. Briefly, Quie argues that performance is only moderately correlated with poverty, hence, many children who are performing badly but are not from impoverished families are excluded from the Title I services.

To identify eligible children, Quie proposed that a national assessment be made in the areas of reading and mathematics, using criterion-referenced tests on samples of pupils across three grade levels. Allocations of Title I funds to states would be based on relative proportions of children identified as "educationally disadvantaged"--i.e., those failing

to perform at or above criterion levels. The states would then be responsible for targeting funds to eligible children within LEAs. LEAs would presumably be responsible for diagnosing individual needs, prescribing treatments (or negotiating objectives), and evaluating results.

In an attempt at clarification the U.S. Office of Education published a handbook for local school officials describing the process for selecting eligible attendance and project areas. In this handbook there are eight steps involved in determining eligible attendance areas. The fairly simple directions contained in the handbook tend to disguise the underlying conceptual, and operational difficulty entailed in determining what students get what funds, and to what ends. An expression of these underlying questions of what students get what funds and to what end was formalized on March 28, 1974. On that day, a series of amendments were appended to Title I of the Elementary and Secondary Act (1965) and carried the rather innocuous title of HR 69. The mandate expressed, however, was for the National Institute of Education to examine the fundamental purposes and effectiveness of compensatory education and to analyze ways of identifying children in need, methods of meeting their needs, and alternative procedures for distributing funds.

Obviously, such a mandate is extremely wide-ranging and this proposed topic of study does not purport to examine all of these relevant issues, but rather to examine the ramifications of a model procedure which hopefully can supply insight into the questions to be posed in instituting alternative funding criteria.

This study will address itself to the investigation of the following general questions.

1. What factors should be included in a Title I allocation model?

2. What should the weighting of these factors be in an effort to serve those in "need?"

STATEMENT OF THE PURPOSE

The purpose of compensatory programs is to positively affect those students that are in the most need. It is felt that under the current regulations, this goal simply could not be met. Schools are currently identified as eligible for compensatory funds based solely on economic considerations. The schools then are ranked again based on the economic considerations and compensatory programs are assigned to these schools based upon these rankings. It can be seen that throughout the district there are schools with high proportions of students that are educationally deprived, but yet, are not eligible to receive the compensatory program that could enable their students to attain their expected achievement levels. In an effort to insure that the allocation of funds would be more equitably distributed to those in "educational" need, a model for allocation will be devised based on student academic achievement.

Currently most districts struggle to determine which schools would be eligible based on economic factors. The factors that had to be considered were based on data which were oftentimes out-of-date, e.g., the 1970 census, or information which

was known to be incomplete, e.g., ADC (Aid to Dependent Children), number of free lunches, etc. Through the use of student achievement measures which are assessed and monitored throughout the year, equitable funding allocations could be made and monitored.

The present study will devise a number of models with factors based on input from teachers, parents, learners, and school administrators. Since all of the above subgroups have direct contact with the Title I delivery systems, the analysis of these attitudes, characteristics, and performance is needed for any intelligent assessment of the success or failure of the program.

The major questions regarding the setting of performance standards for Title I funds distribution that will serve as the framework for this study are:

1. Is the incidence of low achieving children more uniformly distributed across the school district than is the incidence of children from low income families?

2. Will schools with large numbers of minority children lose a substantial amount of Title I funds under a performance-based criteria?

3. Should a single standard be imposed for the allocation of funds, or should the adoption include variable standards which differ according to the school's geographic location within the district, mobility factor of the school, and ethnic population?

These and other basic allocation questions dictate the necessity for designing alternative allocation models and then examining the characteristics and make up of the eligible students proposed by each of the models for equitability and need.

PERFORMANCE OBJECTIVES

1. Design and administer an instrument to determine the significant factors of allocation which will affect Title I operations.

2. Identify these major factors and utilize them as basic input for the development of Title I allocation models.

3. Subject a set of alternative models to tests determining the equity of Title I fund distribution according to the characteristics and make up of the recipient students.

4. Collect criterion-referenced test scores for all district elementary students.

5. Examine the criterion-referenced test score distributions for varying levels of reading and math deficiencies.

6. Design and describe final Title I allocation model, based on educational rather than economic need.

DEFINITION OF TERMS

For the purpose of this study the following terms are defined:

Compensatory programs: Programs designed, and in most cases federally financed, to positively affect the educational level of school children in need.

Criterion-referenced measurement: A measurement system by which students' scores are interpreted by rationally or empirically established standards of attainment rather than comparisons with the performance of others.

ESEA: Elementary and Secondary Act (Public Law 89-10). Federal school aid legislation devised in an effort to improve education in the United States. Title I is one of five titles funded under the ESEA act of 1965.

L.E.A.: Local educational agency. Represents the local school district.

Title I: A federal title program out of the Elementary and Secondary Education (ESEA) Act of 1965 authorizing federal money to be allotted to states and in turn distributed to schools for special programs for "disadvantaged" children with required annual evaluations of outcome data.

LIMITATIONS AND DELIMITATIONS

This study will be limited to the factors of Title I fund allocation found important to students, teachers, administrators and parents in Mesa, Arizona. Any generalizations to other geographical/economical areas must be made with caution. The population in Mesa, however, is fairly representative of a predominantly Anglo school district, therefore, generalizations concerning the important Title I factors can be made, with some caveats, to districts with similar demography.

Chapter 2

REVIEW OF LITERATURE

The notion that education is a necessary and proper concern of government is as ancient as classical political theory. Aristotle wrote that "the education of youth ought to form the principal part of the legislator's attention...since education first molds, and afterwards sustains the various modes of government."[3] He went on to note that "the better and more perfect the system of education, the better and more perfect the plan of government it is intended to introduce and uphold."[4] For this reason, Aristotle deduced that "...education ought to be regulated by the general consent, and not abandoned to the blind decisions of chance, or to idle caprice."[5]

In America, government interest in education dates back at least to the "old deluder Satan" law in the colony of Massachusetts in 1642. Intermittently at first, but with increasing consistency in the nineteenth and twentieth centuries, public education came to be considered a matter of government interest and concern. However, for most of American history, the view prevailed that education was primarily a function of

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[3]William Ellis, trans., Politics by Aristotle (New York: E.P. Dutton, 1912), p. 238.

[4]Ibid.

[5]Ibid.

local authority and control--even though both state governments and the federal government had a substantial impact upon the course and direction of American educational development. Until the twentieth century, the federal government's main impact was upon the course and direction of American educational development. Until the twentieth century, the federal government's main impact was through land grants for educational purposes. The influence of state governments came to be felt increasingly during the nineteenth century in the standardization of minimal educational requirements and services. The fact remains, however, that up to the end of World War II, local educational programs were financed and determined in large part by local school systems.

American education, in short, has been a highly diffused enterprise over most of the course of its history. The role of the federal government, particularly, has been minimal and any suggested increase in that role has been generally feared and fought.

In the scant period of 13 years (1954-67), however, considerable change occurred. The federal government's interest in stimulating change and improving quality in public education at the pre-collegiate level was increasingly visible in four fields: (1) desegregation; (2) education related to defense and to vocations; (3) aid to research; and (4) education of the economically and culturally disadvantaged, and of the handicapped. Federal activity--judicial, legislative, and executive--in these four areas has unquestionably affected the traditional, decentralized autonomics of American education.

THE NEW EDUCATIONAL DEMANDS

The postwar years in the United States were marked by a series of demands upon the educational system that were unprecedented in scope and magnitude.

The Postwar Explosion in the Learning Force

An unanticipated increase in the birth rate, and an equally unanticipated growth in school attendance through high school and beyond, placed strains on the staff and facilities of American education.

In 1946, only 2,200,000 pupils were enrolled in the first grade of the nation's schools. By 1953, this number had jumped to 3,700,000.[6]

In 1949-50, there were 6,453,000 students enrolled in grades 9-12, including post-graduate studies below the collegiate level. By 1965, this number had almost exactly doubled.[7]

In the single decade 1954-55 to 1964-65, the number of students graduating from high school leapt from 1,351,000 to 2,567,000.[8]

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[6]U.S. Department of Health, Education, and Welfare, Statistics of State School Systems, 1961-62 (Washington: U.S. Government Printing Office, 1962), p. 42.

[7]U.S. Department of Health, Education, and Welfare, Progress of Public Education in the United States of America 1963-64 (Washington: U.S. Government Printing Office, 1964), p. 10; cf. U.S. Department of Health, Education, and Welfare, Projections of Educational Statistics to 1975-76 (Washington: U.S. Government Printing Office, 1964), p. 5.

[8]U.S. Department of Health, Education, and Welfare, Trends (Washington: U.S. Government Printing Office, 1965), p. 20.

How were these additional students to be housed? Who would teach them? Who would pay for the facilities and staff needed to serve them? If no other educational demands had existed in the postwar years, the sheer volume of responsibility for teaching millions of additional children would by itself have produced extraordinary pressures upon the educational system.

Knowledge Explosion

Concomitant to the school population explosion was an intellectual and technological explosion. The postwar rate of technological invention and economic growth; breakthroughs in electronic communications, and in the speed and ease of publishing and disseminating information; the heightened mobility of people and ideas, the intractability and unprecedented responsibilities of the cold war; the vast outpouring of research findings in the social and behavioral sciences; and the rising expectations of the dispossessed at home and abroad--all combined to challenge the adequacy of the American educational system. How could it produce the skills needed to understand, and ultimately manage, these new forces? Sputnik dramatized the dilemmas and the shortfalls, but widespread awareness of the basic problem presaged as well as followed the Russian triumph of 1957. Studies of public education by former Harvard President James B. Conant had a pervasive impact upon public thinking.[9]

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[9]James B. Conant, The American High School Today (New York: McGraw-Hill, 1959); Slums and Suburbs (New York: McGraw-Hill, 1961); and The Education of American Teachers (New York: McGraw-Hill, 1963).

Books, articles, monographs, and speeches emerged in profusion asking why Johnny could not read; why curricula and pedagogical techniques were outmoded; why vast discrepancies seemed to exist between education for the middle-class suburban children on the one hand and education for children of the urban and rural poor on the other. Research and clinical experiments dealt with such areas as the nature of learning, innovation in education, education for the culturally deprived, and the evaluation of educational performance.

Other scholars brought other points of view to America's educational problems. Economists like Professors Harold F. Clark and Theodore W. Schultz began to point out that education was a nation's most important investment in sustaining and promoting a viable economy in a highly technological culture.[10] John W. Gardner, then President of the Carnegie Corporation, became chairman of the Task Force on Education of President Eisenhower's 1960 Committee on National Goals. Gardner contended that education was the key to improving the "quality of life" in the American society.

This vast increase in concern and analysis led reformers to wonder whether anything short of substantial federal infusions of money could move the educational system off its traditional dead center.

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[10]Theodore W. Schultz, The Economic Value of Education (New York: Columbia University Press, 1963); Harold F. Clark, Cost Quality in Public Education (Syracuse: Syracuse University Press, 1963).

Segregation

A major catalyst of the educational ferment of the 1950's and early 1960's, and a source of new demands on the educational system, was the Supreme Court's historic decision of 1954 on school segreation. In Brown vs. Board of Education in Topeka, Kansas, the court overturned the long-standing Plessy vs. Ferguson ruling that racial segreation was permissible if schools were "separate but equal."

Poverty and Cultural Deprivation

Closely tied to the segregation issue was the question of the relationship of education to the nation's economic health. By the early 1960's, two issues had become particularly prominent. First, although overall national productivity had been steadily increasing since the end of World War II, marked disparities in income and in employment opportunities persisted. Large pockets of unemployment and poverty remained, especially in the large cities and in dispersed rural slums. These disparities came to be viewed not only as a deterrent to regional prosperity and a violation of the individual's right to the dignity of gainful employment, but as a blot on America's international reputation as a humane democracy.

LIMITED AND INADEQUATE RESOURCES

This avalanche of demands fell upon an educational system woefully shy of institutional, human, and fiscal resources.

It is conceivable that the American educational system could have weathered the fiscal problems of the postwar period if it were prepared, but it was not. Conservative in outlook and fragmented in structure, the American school system had developed a paucity of efforts to improve education.

As long as schools were almost entirely supported from a local property tax base, the quality of education tended to vary with the availability of local tax revenues. Even though states increased their percentage contributions to local school districts from 30% in 1940 to 40% in 1974,[11] grim differences in school-district revenues continued to exist. Roald F. Campbell has summarized the reasons for the disparities in provision of resources for schools: (1) the relative wealth of states and localities; (2) their differential access to funds due to statutory regulations; and (3) variations in the level of aspirations of different sectors of the population.[12]

In the field of federal school aid, the half-decade 1960-64 was filled with political inventiveness and some major breakthroughs in legislative areas; but it was a period of massive frustration in regard to the central target issue.

The decade began with a presidential campaign which pitted the Eisenhower-Nixon philosophy of indirect aid-for-school-construction-only against the Kennedy-Democratic-congressional

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[11]National Education Association, "Estimates of School Statistics," Research Report (R17) (Washington D.C.: Research Division, 1964), p. 15.

[12]Roald F. Campbell, Luverne Cunningham, Roderick F. McPhee, The Organization and Control of American Schools (Columbus: C.E. Merrill, 1965).

philosophy of general aid for both school construction and teachers' salaries. The presidential victory of Senator John F. Kennedy, Democrat of Massachusetts, in November, 1960, signaled the beginning of a struggle whose resolution was ultimately to be the Johnson Administration's triumph of ESEA.

The Kennedy Education Bill of 1961

The struggle peaked early. In what the President classified as probably the most important piece of domestic legislation of the year, he asked in early 1961 for grants of $2.3 billion over three years to be used by the states primarily for construction of public elementary and high school classrooms and for boosting public teachers' salaries; and an even greater amount over five-year period for higher education facilities, and for construction loans and student scholarships to both public and private colleges.

The successful forces against the bill were so powerful and pervasive as to make thoughtful analysts predict that no breakthrough in substantial federal aid to elementary and secondary education would likely occur for years or even decades. These predictions seemed borne out by the fate of similar or extended Kennedy recommendations in 1962 and 1963. In each case, an alliance of Southern Democrats, conservative Republicans, and Catholic congressmen was triumphant.

From 1961 on, there was a gradual shift in Congress from aid proposals for teachers' salaries and school construction under general state administration, to proposals with a specific program emphasis under federally set standards.

President Kennedy's 1963 omnibus education bill included a proposal for general aid, with 10 percent to 20 percent of each state's grant requested for educationally deprived children in economically depressed areas and slums. When the bill was split up by Congress, this proposal was dropped. The remainder became: the Higher Education Facilities bill of 1963; an omnibus bill with familiar components such as vocational education, impacted areas aid, and NDEA expansion; and the Library Services and Construction bill of 1964. All three bills emerged from conference-committee deadlock only after Kennedy's assassination.

The 1964 amendments to NDEA included federal grants to institutes for the advanced work of teachers in the instruction of disadvantaged children--another relevant precursor to sections of ESEA.

Concurrently (February, 1964) in the Senate, the culturally deprived among the nation's school population became the central focus of a significant legislative proposal spearheaded by Senator Wayne Morse, Democrat of Oregon, and called the Morse-Dent bill.[13] In essence, the Morse-Dent bill attempted to add poverty, welfare payments, and unemployment to the definition of "impaction" in order to enlarge massively the scope of the traditionally popular aid-to-impacted-areas legislation which had been on the books for 15 years and which had resisted both Eisenhower's and Kennedy's efforts at reform.

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[13]S 2528 and HR 10159, 89th Cong., 2nd Sess.

While these various shifts in forces were occurring in the field of school aid, other domestic legislation was being developed and passed in the areas of civil rights and poverty, and precedents were being set for liberalizing federal aid to church-related institutions. These developments were important antecedents to the emergence of the Elementary and Secondary Education Act of 1965.

THE ENACTMENT OF PUBLIC LAW 89-10 "ELEMENTARY AND SECONDARY EDUCATION ACT OF 1965"

The Democratic landslide in November, 1964, strengthened all of the elements favorable to the early passage of federal school aid legislation; a President elected in his own right by an overwhelming margin; heavy democractic majorities in both the Senate and the House; experienced chairmen and a predominance of well-disposed members of relevant legislative committees and subcommittees; and a liberalized Rules Committee.

Preparations for the 1965 legislative session moved into high gear after the November election. With President Johnson's encouragement, the transformation of ideas into programs was carried out rapidly by Johnson's legislative aides.

In ESEA the appropriation for Title I was set at more than $1 billion. This amount, while in line with earlier bills, was less than the $1.5 billion proposed by the National Education Association and even more out of line with the wishes of a number of liberal and labor groups who considered even the

NEA figure insufficient.[14] Yet $1 billion was several times larger than any previous annual authorization requested for elementary and secondary education in an administration bill.

Establishment of the Title I formula was the most intricate portion of the budgetary task. It involved finding a combination of factors that would produce both the desired distribution of funds on a geographical basis and a total grant authorization figure at the $1 billion level. Given the focus of the program on the needs of educationally disadvantaged children, the variables considered relevant were: numbers and locations of school-age children, family income levels, and state average per-pupil expenditures. Various trial combinations of these measures produced a wide range of fiscal effects. The formula adopted used the age levels 5 to 17; a family annual income level of $2,000 to define poverty, and indirectly, "educational disadvantage;" and 50 percent as the "federal percentage" of the state average per-pupil expenditure figure.

TITLE I - BETTER SCHOOLING FOR EDUCATIONALLY DEPRIVED CHILDREN

Title I, accounting for five-sixths of the total fund authorized for ESEA, was the predominant preoccupation of school administrators at all levels, members of Congress, and those

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[14]U.S., Congress, House, General Subcommittee on Education, on Aid to Elementary and Secondary Education, Hearing 89th Cong., 1st Sess., Testimony of Andrew J. Biemiller, Director, Department of Legislation, AFL-CIO, (Washington: Government Printing Office, 1965), p. 971.

involved in federal fiscal management. Based on the apparent consensus that the use of federal funds to meet the needs of educationally disadvantaged children was appropriate and urgent, a novel grant provision allocated such funds to states and localities by formula, subject to the approval of specific programs and projects by state authorities.

Title I of the ESEA has never been free from criticism. Today, over a decade after its passage, criticism still looms. The attacks on Title I center primarily around:[15]

- The Struggle Over Priorities. In the earliest days, funds were used differently from what Congress intended.
- The Disregard for Decision Makers. The top-down approach of ESEA bypassed the local school building and the individual classroom.
- Invidious Practices. In order to adapt programs to local needs, project managers often "bent the rules."
- Minimal Impact. The act's principal beneficiaries seldom received benefits exceeding $175-200 apiece in any given year.

Despite these criticisms, the ESEA had many positive effects. These include:[16]

- The ESEA broke the logjam on federal aid to education.
- The ESEA spotlighted the needs of children.

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[15]William Wayson, "ESEA: Decennial Views of the Revolution--The Negative Side," Phi Delta Kappan, November 1975, pp. 151-156.

[16]Samuel Halperin, "ESEA: Decennial Views of the Revolution--The Positive Side," Phi Delta Kappan, November 1975, pp. 147-151.

- The ESEA fueled other movements toward equality of educational opportunity.
- The ESEA promoted parental and community involvement in the school.
- The ESEA promoted public/nonpublic cooperation.
- The ESEA promoted the evaluation/accountability movement.

Whatever its limitations in actual performance, and whatever the political and administrative hazards of attempting to meld national and local educational activities, the federal involvement in education has demonstrated the capacity of the American society to develop new and viable programmatic and administrative experiments designed to serve the educational needs, claims, and values of the nation as a whole and of the nation's several constituent communities.

It is likely, however, that by 1978 Congress will be involved in a full-scale debate on the merits of various approaches to delivering compensatory education funds. That debate will probably also include the question of the effectiveness of all compensatory education programs, no matter how the funds are delivered. The 93rd Congress provided $15 million to study the effectiveness of compensatory education programs. Included in this study is a provision which will permit up to twenty school districts around the nation to abandon the traditional allocation measures and experiment with other procedures. Sixteen school districts were selected to participate in this study.

Each of the sixteen chose to abandon the poverty measures in favor of student achievement measures.

National change in that direction is likely never to occur until the majority of parents think of Title I as a program of potential benefit to their children if they have severe educational need as determined by their school achievement rather than their economic status. These educational needs are likely to be heavily concentrated among those in the lowest income brackets. That being the case, the constituency has relatively little to lose when losses are measured against the potential gain which they would receive as the beneficiaries of a rising tide.

Chapter 3

METHODOLOGY

Data collected within the Mesa Public Schools, which has a district-wide, criterion-referenced testing program, was used to compare the flow of federal funds to schools under the present ESEA Title I poverty formula with the assistance that would result from using pupil performance measures.

In collecting and examining the data, the following assumptions were held to:

1. The number of educationally disadvantaged under the original poverty criterion is the number of children we wish to label educationally disadvantaged under a newly inaugurated test score criterion, and,

2. the number of educationally disadvantaged under a newly inaugurated test score criterion may vary and will be determined by the actual number of students performing below a selected criterion.

SUBPUBLICS' INPUT

An often neglected contribution to the success of any program is the understanding of, and in particular, the continual feedback from, concerned subpublics. In an effort to accomplish this, a district involvement model was developed. This model includes steps designed to determine the major

needs or elements of the planning program utilizing VALUE of the element of change to be introduced, the EXTENT to which the change problems are anticipated to occur, and the IMPORTANCE of the problems associated with the changes.

In this manner, the priority needs (of change) is determined by measuring the subpublics' generated values, extent of occurrence, and estimate of importance of a given change problem. Elements of change that rank high on value, extent, and importance would then be used to form the basic and immediate needs of the proposed Title I reallocation and distribution program.

DATA COLLECTION AND MODEL DEVELOPMENT

Using pretest data from the reading and math criterion-referenced district testing, each student's score was tallied by grade by school. Means were established for each grade level by school and for the district as a whole. Cumulative distributions were plotted by grade for the district.

Using the Mesa School Profile, indices were obtained by school on the following factors:

Aid to dependent children

Free lunch

1970 census poverty-level students

Inward student mobility rate

Ethnicity counts were obtained by school from the Mesa Public Schools Ethnic Code Report. Data from the Mesa Public Schools Membership Report was used to determine enrollment and teacher/pupil ratio figures.

Five allocation models were developed; each is described in detail in the Results section.

Chapter 4

PRESENTATION AND ANALYSIS OF RESULTS

SUBPUBLICS' INPUT

The needs assessment part of the subpublics' input eventuated in a number of interests and concerns being generated by the parents, teachers, administrators and students.

The results of these interactions resulted in the subpublics expressing that the following factors should be addressed in the design of funding allocation models:

1. Achievement level
2. Mobility
3. Ethnicity
4. Economic level
5. Expected or predicted achievement

The information furnished by the subgroups and other considerations presented by the Directors of Reading and Mathematics led to the design of five potential allocation models and their subsequent simulation.

THE MODELS

Model 1 - Lowest 10%

This model was concerned with students achieving at the lowest 10% for their individual grade level.

To determine the lowest 10% in achievement district-

wide in reading and math, the following steps were taken:

a. Record scores on criterion-referenced tests by school, by grade level for both reading and math.

b. Record scores district-wide by grade level for both reading and math.

c. Develop cumulative distribution functions for both reading and math.

d. Using the distribution functions, determine score, below which, 10% of the students scored.

e. Using tally done in step a, determine the number of students at each grade at each school scoring at or below that score.

Using this model, it was found that current non-Title schools have 813 students performing in the lowest 10%. Of the 1670 students currently receiving Title I assistance, 749 of them are performing higher than the lowest 10% of their grade level. The number of students eligible per school under this model ranged from 31-140.

The actual distribution of students eligible at the various grade levels and schools is presented in Appendix 1.

Model 2 - Program Emphasis Achievement Model

The second model developed attempted to respond to the philosophy of the Departments of Reading and Math. This model used basically the same approach as the 10% model except the percentages varied by grade level and by subject area. That is, the numbers of students served varied by grade

level according to the emphasis given by the Departments of Reading and Math. For example, the philosophy of the Reading Department dictates that more students should be served in the primary than intermediate grades, whereas the opposite is true for math. (See Table 1.)

The following steps were used to determine the program emphasis by grade level distributions:

a. Record scores on criterion-referenced tests by school, by grade for both reading and math.

b. Record scores district-wide by grade level for both reading and math.

c. Develop cumulative distribution functions for both reading and math.

d. The Directors of Reading and Math were asked to specify the percent of resources that each grade level should receive.

e. The figure in step d was used to determine the anticipated number of students in each grade level (using current year's total of 906 reading, 764 math).

f. This anticipated number of students was converted to a percent of total grade level enrollment.

g. Using a cumulative distribution function, a score was determined for each grade level in both reading and math to correspond to the percent figure in step f.

h. Returning to the school by grade tally done in step a, the number of students at each grade at each school was determined for both reading and math.

Table 1

Recommendations from the Directors Describing Their Program Emphasis by Grade Level

Reading

Grade	Program/ Budget Emphasis	Program Emphasis Breakdown	Anticipated Number of Students	Percent of Total Grade Level Enrollment	Score Below which that % Scored
1	70	40	362	16	71.5
2		30	272	13	41.3
3		20	181	9	28.2
4		4	36	2	21.0
5		3	27	1.3	23.0
6		3	27	1.3	24.0
7-9	20		yet to be analyzed		
10-12	10				

Math

Grade	Program/ Budget Emphasis	Program Emphasis Breakdown	Anticipated Number of Students	Percent of Total Grade Level Enrollment	Score Below which that % Scored
1	75	5	38	1.69	nd
2		10	76	3.57	5.5
3		15	115	5.68	11
4		20	153	7.62	13
5		25	191	9.59	20
6		25	191	9.22	19
7-9	8		yet to be analyzed		
10-12	17				

The numbers of students eligible per school ranged from 20-132. This model, termed the Program Emphasis Model, is discussed further in the following sections and the distributions presented in Appendix 1.

Model 3 - Mobility, Ethnicity and Achievement

The third model developed incorporated the mobility and ethnicity factors of the schools. These factors were combined with the grade level means in reading and math for each school. The distribution of eligible students was then based on the same percentages used under the Program Emphasis Model. Using this model tended to equalize the number of students eligible per school. The numbers of students eligible per school under this model ranged from 56-83.

The following steps were employed:

a. Assign a weight of one to the complement of each school's new-to-district student mobility rate (in other words, their stable population).

b. Assign a weight of one to each school's percent of student population that were Anglo.

c. Assign a weight of 4 to each grade level mean (CRT scores) of each school.

d. Using the weighted mean for each school, determine assigned weights by school.

e. Convert this weight to a percent of eligible Title I students (using the Directors' recommendations for grade level emphasis).

f. Convert the percent in step e to an actual number of Title I students to be served at each grade level at each school for both reading and math.

The student distribution is presented in Appendix 1.

Model 4 - Low Income, Mobility and Achievement

The fourth model developed combined the school's low income factors of free lunch and aid to dependent children with its mobility rate and the grade level means in reading and math. Like the previous model, these factors again equalize the number of students eligible to receive assistance across schools. The range of students per school under this model was 55-87.

Since regulations prohibit the use of ethnicity factors as a basis for dollar distribution, a weighted mean was developed that combined the school's mobility rate with the number of low income students. This process included:

a. Determining the number of students receiving free lunch; assigning a weight of one.

b. Determining the number of students receiving ADC; assigning a weight of one.

c. Determining the number of new-to-district students; assigning a weight of one.

d. Assigning a weight of 4 to each school, to determine assigned weights by school.

e. Using the weighted mean for each school to determine assigned weights by school.

f. Converting this weight to a percent of eligible Title I students (using the Directors' recommendation for grade level emphasis).

g. Converting the percent in step f to an actual number of Title I students to be served at each grade level at each school for both reading and math.

Again the student distributions across schools are presented in Appendix 1.

Model 5 -- Expected and Actual Achievement

The fifth model developed incorporated the school's expected achievement for the third grade with the actual achievement (grade level means) in the pretest. This model also had an equalizing effect. The range of students eligible to receive assistance was 57-75 (actual distributions by school in Appendix 1).

In a meeting with the Directors of Reading and Math, and the Assistant Superintendents, and in conversations with district staff, the use of a school achievement predictor has been mentioned. A formula was developed that included the expected achievement of the third grade CRT's and the actual pretest scores. The steps followed were:

a. A weighted mean was determined by assigning a weight of one to both the expected achievement level (CRT third grade score, Mesa School Profile) and the actual pretest mean for each grade level for each school for both reading and math.

b. Using the weighted mean for each school, assigned weights by school were determined.

c. This weight was converted to a percent of eligible

Title I students (using the Directors' recommendations for grade level emphasis).

d. The percent in step c was converted to an actual number of Title I students to be served at each grade level at each school for both reading and math.

When the results of the distribution of eligible students across schools for the various models (Appendix 1) was examined by the advisory group and the superintendency, a number of the models were found to be inappropriate. Model number 3 (Mobility, Ethnicity and Achievement), Model number 4 (Low Income, Mobility and Achievement) and Model number 5 (Expected and Actual Achievement) were rejected by the advisory group. The sum total of the factors within the models were such in Models 3, 4 and 5, that very little discrimination between schools was shown (Table 2). Other data pointing out schools with reading and math problems, showed schools to differ significantly in their educational needs yet Models 3, 4 and 5 tended to flatten the distribution across schools. Whereas Model 1 showed a range of 31-140 eligible students per school, and Model 2 exhibited 21-132 eligible students per school, the Models 3, 4 and 5 represented respective ranges of 56-83, 55-87, and 57-75 per school. Of the remaining Models (1 and 2) the Program Emphasis Model was chosen for further examination. The straight achievement model (Model 1) was rejected in that it was felt that it represented an unrealistic picture of reading and math needs. The curriculum directors argued that math and reading needs vary across

Table 2

Student Eligibility Under Given Models

Model	Range of Students Eligible for Assistance Per School for Each Model
1. Lowest 10%	31-140 students
2. Program Emphasis	20-132 students
3. Mobility, Ethnicity and Achievement	56-83 students
4. Low Income, Mobility and Achievement	55-87 students
5. Expected and Actual Achievement	57-75 students

grade levels and a straight percent need expression for all grade levels is inappropriate. It appears that the Program Emphasis Model (PEM) is most advantageous to the individual students and the schools as a whole. Using this model, achievement is the sole basis upon which Title I funds would be dispersed. Table 3 describes the student allocation breakdown, using the PEM, by school for both reading and math. The grade level student distributions are shown in Appendix 1.

In an effort to insure that the adjustment allocation method based on the PEM did not favor any demographic characteristic with the exception of academic achievement. Ethnicity, school size, teacher-pupil ratio and mobility rate of the schools receiving assistance were examined in relation to the present and proposed aide allocations.

It can be seen in Table 4 that no major biasing or major changes in demographic characteristics were shown with the newly proposed aide allocation based on the PEM.

Table 3

Distribution of Students Currently Served by Title I Compared with Number Eligible Under the Program Emphasis Model

	NOW SERVED			PROGRAM EMPHASIS MODEL		
	Reading	Math	Total	Reading	Math	Total
Adams	0	0	0	22	24	46
Edison	0	0	0	25	26	51
Eisenhower	88	70	158	51	32	83
Emerson	0	0	0	23	20	43
Field	0	0	0	26	20	46
Franklin	90	50	140	64	24	88
Hale	0	0	0	29	20	49
Hawthorne	0	0	0	17	7	24
Holmes	94	91	185	58	41	99
Jefferson	66	33	99	87	45	132
Keller	0	0	0	34	20	54
Lehi	38	67	105	18	24	42
Lincoln	41	51	92	67	38	105
Lindbergh	59	58	117	25	16	41
Longfellow	0	0	0	39	24	63
Lowell	80	50	130	26	16	42
Redbird	111	40	151	57	24	81
Roosevelt	0	0	0	18	16	34
Salk	84	121	205	35	22	57
Stevenson	0	0	0	55	26	83

Table 3 (continued)

	NOW SERVED			PROGRAM EMPHASIS MODEL		
	Reading	Math	Total	Reading	Math	Total
Taft	63	66	129	15	19	34
Webster	50	19	69	47	29	76
Washington	0	0	0	13	7	20
Whitman	42	48	90	23	18	41
Whittier	0	0	0	14	8	22
TOTAL	906	764	1670	888	572*	1462

*First grade data not included.

Table 4

Comparison Between Present and Proposed Aide Allocation for Major Variables

		Present Aide Allocation (% of total aides)	Proposed Aide Allocation
Ethnicity	Schools with 20% or more non-anglo	70 (38%)	69 (36%)
Size	Schools with enrollment over 675	85 (47%)	92 (48%)
Teacher/Pupil Ratio	Schools with teacher/pupil ratio over 30	98 (53%)	102 (54%)
Mobility	Schools with mobility rate over 10%	113 (61%)	112 (59%)
	Total Aides	183	189

Chapter 5

CONCLUSIONS, RECOMMENDATIONS, AND SUMMARY

CONCLUSIONS

On the basis of the results of simulation runs of the five models and examination by the advisory board and superintendency the Program Emphasis Model was chosen to be examined further. When the model was examined for its equity across various demographic characteristics, it was found to be non-biased to the various schools in Mesa.

RECOMMENDATIONS

In an effort to be responsive to the full spirit of the intent inherent in the Title I funding, all schools will participate, based on academic needs. It is recommended that the achievement-based Program Emphasis be implemented. This allocation approach is consistent with the philosophy of the Reading and Math Departments in that the numbers of students served varies by grade according to the content emphasis.

It appears that the implementation of an achievement-based allocation plan can be beneficial to low achievers without being detrimental to subpopulations comprising high ethnicity, mobility, student/teacher ratios and/or enrollment counts.

SUMMARY

The present project was designed to develop a plan for the redistribution of Title I funds to better meet the needs of the low achievers in the Mesa Public Schools. Title I assistance is now targeted to schools that have a high proportion of students from low income families. An alternative interpretation of Title I congressional intent is advanced in this study. This interpretation argues that educational disadvantage should be defined in terms of academic performance instead of economic variables.

Mesa Public Schools uses three measures to determine those schools eligible to receive Title I assistance. These measures, 1970 census, aid to dependent children, and free lunch, are of questionable reliability. Yet once a school is identified or targeted as a Title I school, it is eligible to receive assistance for three years. The original intent behind Title I legislation was to provide supplemental assistance to educationally deprived children. Yet these methods of targeting focus on school factors, not children. The purpose of this project was to develop a plan to reallocate Title I funds to better meet the needs of low achieving students in the Mesa Public Schools. The focus of this reallocation is the low achieving student, regardless of his ethnicity, economic status, or location of residence within the district.

Thirteen of Mesa's elementary schools currently receive Title I assistance in the form of reading and math aides. At these thirteen schools, 1670 students are receiving supple-

mental instruction through this assistance. This figure may include duplicate counts, i.e., the same student receiving both reading and math assistance. In the analysis of the data for this report, it was not possible to ascertain unduplicated counts. This analysis concerns assistance given at the elementary level in reading and math and does not address the Title I kindergarten Parent Involvement program or the Title I programs at the junior and senior high school levels.

A district-wide analysis of student achievement was performed using the results of the criterion-referenced pretests administered through the Reading and Math Departments. Considering a hypothetical figure of 10%, it was found that 2,124 students are scoring in the lowest 10% of their grade level. Of these 2,124, 1,311 are at current Title I schools and 813 are at schools not eligible for Title I funds.

It can be seen from the above that this method of Title I distribution can be criticized for excluding many children who should receive services based on their educational need. It appears that performance is only moderately correlated with poverty; hence, many children who are underachieving, but are not from impoverished neighborhoods, are excluded from Title I services.

It was with this consideration in mind that five models for assistance allocation were devised. All of these models to allocate assistance across schools were examined with data from the schools in question.

A model based on a combination of achievement and program emphasis (designed by the curriculum directors) was found to match the spirit of the Title I funding, be equitable to subgroups in the population and consistent with the goals and objectives of the Mesa Public Schools. It was recommended that this model be used in allocating Title I resources in the Mesa Public Schools.

This proposal is consistent with the primary objective of the Mesa Public Schools, i.e., to provide sound and thorough training in the basic subjects as well as the belief that the school should provide opportunities for each child to grow and develop along lines suited to his or her particular abilities. It is the school's responsibility to enhance academic proficiency regardless of race or economic status.

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APPENDIX 1

DISTRIBUTION OF STUDENTS FOR FIVE ALLOCATION MODELS

1. Lowest 10%
2. Program Emphasis Model
3. Mobility, Ethnicity and Achievement
4. Low Income, Mobility and Achievement
5. Expected and Actual Achievement

LOWEST 10%
READING

Elementary School	Now Served	GRADE LEVEL - CRITERION SCORE						Total
		1-63	2-36	3-30	4-47	5-45	6-57	
Adams	0	2	2	9	4	10	10	37
Edison	0	4	5	11	7	5	9	41
Eisenhower	88	10	16	10	7	11	5	59
Emerson	0	5	0	6	12	0	6	29
Field	0	5	4	5	19	4	0	37
Franklin	90	15	9	11	9	14	15	73
Hale	0	10	1	12	10	4	6	43
Hawthorne	0	4	1	3	0	8	8	24
Holmes	94	15	16	4	14	10	8	67
Jefferson	66	26	23	24	11	11	9	104
Keller	0	12	5	7	12	5	6	47
Lehi	38	3	4	6	4	13	8	38
Lincoln	41	30	15	8	0	3	9	65
Lindbergh	59	7	10	1	6	1	7	32
Longfellow	0	13	7	5	6	3	6	40
Lowell	80	4	7	6	7	0	7	31
Redibrd	111	8	9	9	7	42	25	100
Roosevelt	0	7	5	3	4	4	3	26
Salk	84	8	6	10	8	6	13	51
Stevenson	0	8	19	17	9	5	19	77
Taft	63	4	3	0	8	11	10	36
Webster	50	16	9	14	3	8	13	63
Washington	0	1	4	2	1	3	7	18
Whitman	42	7	4	0	10	7	15	43
Whittier	0	3	6	1	4	2	5	21

Elementary School	Now Served	GRADE LEVEL - CRITERION SCORE						Total
		1-No Data	2-12	3-15	4-14	5-20	6-20	
Adams	0	--	5	13	9	7	13	47
Edison	0	--	4	13	2	7	11	37
Eisenhower	70	--	16	12	6	6	6	46
Emerson	0	--	4	6	16	0	5	31
Field	0	--	2	8	2	6	6	24
Franklin	50	--	13	9	13	3	3	41
Hale	0	--	8	5	10	5	4	32
Hawthorne	0	--	1	4	3	2	3	13
Holmes	91	--	8	1	25	8	14	56
Jefferson	33	--	16	17	18	7	14	72
Keller	0	--	10	4	9	7	6	36
Lehi	67	--	4	5	5	6	14	34
Lincoln	51	--	16	13	14	14	11	68
Lindbergh	58	--	11	2	3	7	5	28
Longfellow	0	--	5	5	13	3	5	31
Lowell	50	--	7	7	5	3	3	25
Redbird	40	--	9	14	7	5	5	40
Roosevelt	0	--	6	7	3	1	7	24
Salk	121	--	1	8	6	6	13	34
Stevenson	0	--	12	13	3	10	4	42
Taft	66	--	1	1	9	13	2	26
Webster	19	--	3	21	5	5	5	39
Washington	0	--	2	2	4	2	3	13
Whitman	48	--	2	5	7	6	5	25
Whittier	0	--	1	2	1	1	6	11

NUMBER OF STUDENTS ELIGIBLE BY GRADE LEVEL UNDER THE PROGRAM EMPHASIS MODEL

Reading

Elementary Schools	Now Served	GRADE LEVEL - CRITERION SCORE						
		Gr. 1-72	Gr. 2-41	Gr. 3-28	Gr. 4-21	Gr. 5-23	Gr. 6-24	To-tal
Adams	0	5	8	9	0	0	0	22
Edison	0	6	8	10	0	0	1	25
Eisenhower	88	17	23	10	1	0	0	51
Emerson	0	11	2	6	4	0	0	23
Field	0	11	6	5	4	0	0	26
Franklin	90	21	17	11	0	11	4	64
Hale	0	15	2	12	0	0	0	29
Hawthorne	0	11	3	3	0	0	0	17
Holmes	94	30	18	4	4	2	0	58
Jefferson	66	37	30	16	3	1	0	87
Keller	0	14	10	7	3	0	0	34
Lehi	38	4	7	6	0	1	0	18
Lincoln	41	39	20	8	0	0	0	67
Lindbergh	59	10	12	1	2	0	0	25
Longfellow	0	24	9	5	1	0	0	39
Lowell	80	7	10	6	3	0	0	26
Redbird	111	16	17	9	0	11	4	57
Roosevelt	0	10	5	3	0	0	0	18
Salk	84	15	10	10	0	0	0	35
Stevenson	0	16	21	17	1	0	0	55
Taft	63	9	6	0	0	0	0	15
Webster	50	18	12	14	2	1	0	47
Washington	0	5	6	2	0	0	0	13
Whitman	42	12	9	0	1	1	0	23
Whittier	0	5	7	1	1	0	0	14

NUMBER OF STUDENTS ELIGIBLE BY GRADE LEVEL UNDER THE PROGRAM EMPHASIS MODEL

Math

Elementary Schools	GRADE LEVEL - CRITERION SCORE							
	Now Served	Gr. 1 No Data	Gr. 2-55	Gr. 3-11	Gr. 4-13	Gr. 5-20	Gr. 6-19	Total
Adams	0	--	1	7	4	7	13	32
Edison	0	--	1	5	1	8	11	26
Eisenhower	70	--	9	10	2	6	5	32
Emerson	0	--	1	3	11	0	5	20
Field	0	--	1	6	1	6	6	20
Franklin	50	--	2	6	10	3	3	24
Hale	0	--	2	3	6	5	4	20
Hawthorne	0	--	0	0	2	2	3	7
Holmes	91	--	1	0	18	8	14	41
Jefferson	33	--	7	7	10	7	14	45
Keller	0	--	1	0	6	7	6	20
Lehi	67	--	0	0	4	6	14	24
Lincoln	51	--	4	0	9	14	11	38
Lindbergh	58	--	3	0	1	7	5	16
Longfellow	0	--	3	3	10	3	5	24
Lowell	50	--	2	5	3	3	3	16
Redbird	40	--	2	6	5	6	5	24
Roosevelt	0	--	1	4	3	1	7	16
Salk	121	--	0	1	2	6	13	22
Stevenson	0	--	1	10	1	10	4	26
Taft	66	--	0	1	3	13	2	19
Webster	19	--	1	15	3	5	5	29
Washington	0	--	0	1	1	2	3	7
Whitman	48	--	1	3	3	6	5	18
Whittier	0	--	0	0	1	1	6	8

MOBILITY, ETHNICITY AND ACHIEVEMENT MODEL DISTRIBUTIONS

Reading

Elementary Schools	Grade 1 # Stu	Grade 2 # Stu	Grade 3 # Stu	Grade 4 # Stu	Grade 5 # Stu	Grade 6 # Stu	Total # Stu
Adams	14	12	9	1	1	1	38
Edison	13	10	6	1	0	0	30
Eisenhower	14	12	5	1	0	1	33
Emerson	14	9	7	1	0	1	32
Field	14	10	7	1	0	1	33
Franklin	16	12	13	2	3	2	48
Hale	14	11	7	1	0	1	34
Hawthorne	14	13	5	1	0	1	34
Holmes	18	11	7	1	0	1	38
Jefferson	16	11	7	1	1	1	37
Keller	15	10	6	1	0	1	33
Lehi	14	11	3	1	1	1	31
Lincoln	17	11	8	1	1	1	39
Lindbergh	14	10	7	1	0	1	33
Longfellow	14	11	8	1	0	1	35
Lowell	14	11	8	1	0	1	35
Redbird	14	13	7	1	2	1	38
Roosevelt	14	10	7	1	0	1	33
Salk	14	12	8	2	1	1	38
Stevenson	14	11	8	1	0	1	35
Taft	14	11	8	1	2	1	37
Webster	14	11	8	1	1	1	36
Washington	14	11	7	1	0	1	34
Whitman	14	11	9	1	0	1	36
Whittier	14	10	6	1	0	1	32

Math

Elementary Schools	Grade 1 No Data	Grade 2 # Stu	Grade 3 # Stu	Grade 4 # Stu	Grade 5 # Stu	Grade 6 # Stu	Total # Stu
Adams	--	3	6	7	8	8	32
Edison	--	2	4	5	7	8	26
Eisenhower	--	3	5	5	8	8	29
Emerson	--	3	5	6	7	7	28
Field	--	2	4	5	7	7	25
Franklin	--	5	7	9	9	8	38
Hale	--	3	4	6	7	8	28
Hawthorne	--	2	4	4	7	6	23
Haolmes	--	3	4	7	8	8	30
Jefferson	--	4	5	8	8	8	33
Keller	--	3	4	7	7	8	29
Lehi	--	3	5	7	8	8	31
Lincoln	--	4	6	8	8	8	34
Lindbergh	--	3	4	5	7	7	26
Longfellow	--	3	3	6	8	8	28
Lowell	--	3	5	6	8	8	30
Redbird	--	3	5	6	7	8	31
Roosevelt	--	3	4	4	8	8	27
Salk	--	4	5	6	8	8	31
Stevenson	--	4	5	6	8	8	31
Taft	--	2	4	6	7	7	26
Webster	--	3	6	6	8	8	31
Washington	--	3	4	4	7	8	26
Whitman	--	3	4	7	8	8	30
Whittier	--	3	4	6	7	7	27

Reading

Elementary Schools	Grade 1 # Stu	Grade 2 # Stu	Grade 3 # Stu	Grade 4 # Stu	Grade 5 # Stu	Grade 6 # Stu	Total # Stu
Adams	13	11	10	1	1	1	37
Edison	13	10	7	1	1	1	33
Eisenhower	14	12	6	1	1	1	35
Emerson	14	9	7	1	1	1	33
Field	14	10	6	1	1	1	33
Franklin	17	12	12	2	3	2	48
Hale	14	11	7	1	1	1	35
Hawthorne	14	10	5	1	1	1	32
Holmes	17	11	7	1	1	1	38
Jefferson	16	11	7	1	1	1	37
Keller	15	11	7	2	1	1	37
Lehi	15	11	8	1	1	1	37
Lincoln	16	11	8	1	1	1	38
Lindbergh	14	11	8	1	1	1	36
Longfellow	14	11	7	1	1	1	35
Lowell	14	11	8	1	1	1	36
Redbird	14	11	7	1	2	1	36
Roosevelt	14	10	6	1	1	1	33
Salk	14	11	8	1	1	1	36
Stevenson	15	12	8	2	1	1	39
Taft	15	12	8	2	2	1	40
Webster	14	11	7	1	1	1	35
Washington	14	11	7	1	1	1	35
Whitman	14	10	6	1	1	1	33
Whittier	14	12	6	1	1	1	35

LOW INCOME, MOBILITY AND ACHIEVEMENT MODEL DISTRIBUTIONS

Math

Elementary Schools	Grade 1 No Data	Grade 2 # Stu	Grade 3 # Stu	Grade 4 # Stu	Grade 5 # Stu	Grade 6 # Stu	Total # Stu
Adams	--	2	5	6	7	8	28
Edison	--	2	4	5	7	8	26
Eisenhower	--	3	5	5	7	8	28
Emerson	--	2	4	6	7	7	26
Field	--	2	4	5	7	7	25
Franklin	--	5	7	9	9	9	39
Hale	--	3	4	5	7	7	26
Hawthorne	--	2	4	4	7	6	23
Holmes	--	3	4	7	7	8	29
Jefferson	--	4	5	8	7	8	32
Keller	--	3	5	7	7	8	30
Lehi	--	3	5	7	8	8	31
Lincoln	--	4	5	7	8	8	32
Lindbergh	--	3	4	6	7	8	28
Longfellow	--	3	6	6	7	7	29
Lowell	--	3	5	6	8	8	30
Redbird	--	3	5	6	7	7	28
Roosevelt	--	2	3	4	7	7	23
Salk	--	3	5	6	7	8	29
Stevenson	--	4	6	7	8	8	33
Taft	--	3	4	7	8	8	30
Webster	--	3	5	6	7	8	29
Washington	--	3	4	4	7	7	25
Whitman	--	3	4	6	7	7	27
Whittier	--	3	4	6	7	7	27

EXPECTED AND ACTUAL ACHIEVEMENT MODEL DISTRIBUTIONS

Reading

Elementary Schools	Grade 1 # Stu	Grade 2 # Stu	Grade 3 # Stu	Grade 4 # Stu	Grade 5 # Stu	Grade 6 # Stu	Total # Stu
Adams	13	11	8	1	1	1	35
Edison	13	11	7	1	1	1	34
Eisenhower	13	11	6	1	1	1	33
Emerson	13	10	7	1	1	1	33
Field	13	11	7	1	1	1	34
Franklin	15	11	10	2	2	1	41
Hale	14	11	7	1	1	1	35
Hawthorne	13	10	6	1	1	1	32
Holmes	17	11	8	2	1	1	40
Jefferson	16	11	7	1	1	1	37
Keller	14	11	7	1	1	1	35
Lehi	14	11	8	1	1	1	36
Lincoln	16	11	8	1	1	1	38
Lindbergh	13	11	7	1	1	1	33
Longfellow	14	11	7	1	1	1	35
Lowell	14	11	7	1	1	1	35
Redbird	14	11	7	1	2	1	36
Roosevelt	13	13	6	1	1	1	35
Salk	12	10	6	1	1	1	31
Stevenson	14	11	8	1	1	1	36
Taft	14	11	8	2	1	1	37
Webster	14	11	7	1	1	1	35
Washington	14	11	7	1	1	1	35
Whitman	14	11	7	1	1	1	35
Whittier	14	11	7	1	1	1	35

EXPECTED AND ACTUAL ACHIEVEMENT MODEL DISTRIBUTIONS

Math

Elementary Schools	Grade 1 No Data	Grade 2 # Stu	Grade 3 # Stu	Grade 4 # Stu	Grade 5 # Stu	Grade 6 # Stu	Total # Stu
Adams	--	2	5	6	8	8	29
Edison	--	3	5	6	8	8	30
Eisenhower	--	3	4	5	7	7	26
Emerson	--	3	4	6	7	7	27
Field	--	3	5	6	8	8	30
Franklin	--	4	6	7	9	8	34
Hale	--	3	5	6	8	8	30
Hawthorne	--	3	5	5	5	7	25
Holmes	--	3	4	6	8	8	29
Jefferson	--	4	5	7	9	8	33
Keller	--	3	5	6	8	7	29
Lehi	--	3	4	6	8	8	29
Lincoln	--	4	5	7	9	8	33
Lindbergh	--	3	4	6	8	7	28
Longfellow	--	3	4	7	8	8	30
Lowell	--	3	5	6	8	8	30
Redbird	--	3	5	6	8	8	30
Roosevelt	--	3	4	5	7	7	26
Salk	--	3	5	6	7	8	29
Stevenson	--	3	5	6	8	8	30
Taft	--	3	4	6	9	8	30
Webster	--	3	5	6	7	7	28
Washington	--	3	5	5	5	7	25
Whitman	--	3	4	6	8	7	28
Whittier	--	3	4	6	8	8	29